

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v6

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 8 \cdot f\left[\frac{x+2}{7}\right] + 3$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (7a - 2, 8b + 3)$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[8x+2]}{3} - 9$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a-2}{8}, \frac{b}{3} - 9\right)$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{5} - 6\right] - 9}{4}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(5(a+6), \frac{b-9}{4}\right)$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 6 \cdot (f[7x - 3] - 9)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a+3}{7}, 6(b-9) \right)$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{6} + 9\right] + 7}{4}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(6(a-9), \frac{b+7}{4} \right)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 2 \cdot (f[7(x-4)] + 6)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{7} + 4, 2(b+6) \right)$$